

PATENT

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Client Reference No. GN 00020 SIEKAM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Uytterhoeven et al.

Art Unit: 1752

Application No. 09/934,806

Examiner: T. Chea

Filed: August 22, 2001

For: AQUEOUS DISPERSION COMPRISING
PHOTOSENSITIVE SILVER HALIDE AND
A SUBSTANTIALLY LIGHT-INSENSITIVE
SILVER SALT OF AN ORGANIC
CARBOXYLIC ACID

**PENDING CLAIMS AFTER AMENDMENTS
MADE IN RESPONSE TO OFFICE ACTION DATED FEBRUARY 26, 2003**

1. A preparation process for a first aqueous dispersion comprising an ex-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid, comprising the steps of: separately preparing a second aqueous dispersion comprising said ex-situ photosensitive silver halide and a third aqueous dispersion comprising said substantially light-insensitive silver salt of an organic carboxylic acid; and mixing said second aqueous dispersion with said third aqueous dispersion to produce a mixture thereof, wherein said first aqueous dispersion thereby produced is substantially free of a water-soluble metal or ammonium salt of an aliphatic carboxylic acid with greater than 12 carbon atoms and said process further comprises a step selected from the group consisting of: increasing the pH of said second aqueous dispersion to a value of at least 8.0 prior to mixing with said third aqueous dispersion; increasing the pH of said third aqueous dispersion to a value of at least 8.0 prior to mixing with said second aqueous dispersion; and increasing the pH of said mixture to a value of at least 8.0.

2. Preparation process according to claim 1, wherein said third aqueous dispersion further comprises a first in situ photosensitive silver halide.

3. Preparation process according to claim 1, wherein said pH value of at least 8.0 is attained by addition of ammonia.

4. Preparation process according to claim 1, wherein said substantially light-insensitive silver salt of an organic carboxylic acid is a silver salt of an aliphatic carboxylic acid greater than 12 carbon atoms.

5. A first aqueous dispersion comprising an ex-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid obtained by a preparation process according to claim 1.

6. First aqueous dispersion according to claim 5, wherein said first aqueous dispersion further contains a reducing agent for said substantially light-insensitive silver salt of an organic carboxylic acid.

7. A process for preparing a layer of a photo-addressable thermally developable element of a photothermographic recording material, said photo-addressable thermally developable element comprising photosensitive silver halide, said substantially light-insensitive silver salt of an organic carboxylic acid, a reducing agent therefor in thermal working relationship therewith and a binder, comprising the steps of: (i) preparing a first aqueous dispersion according to claim 1; and (ii) coating said first aqueous dispersion on a support.

8. A preparation process for a fourth aqueous dispersion comprising a second in-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid, comprising the steps of: (i) providing said third aqueous dispersion of claim 1 and (ii) partially converting said substantially light-insensitive silver salt of an organic carboxylic acid in said third aqueous dispersion with a non-fluoro halide ion source into said second in-situ photosensitive silver halide thereby producing said fourth aqueous dispersion; wherein said fourth aqueous dispersion thereby produced is substantially free of a water-soluble metal or ammonium salt of an aliphatic carboxylic

acid with greater than 12 carbon atoms and said process further comprises a step selected from the group consisting of: increasing the pH of said third aqueous dispersion to a value of at least 8.0 prior to step (ii); increasing the pH of the third aqueous dispersion to a value of at least 8.0 during step (ii); and increasing the pH of said aqueous dispersion resulting from step (ii) to a value of at least 8.0.

9. Preparation process according to claim 8, wherein said pH value of at least 8.0 is attained by addition of ammonia.

10. Preparation process according to claim 8, wherein said substantially light-insensitive silver salt of an organic carboxylic acid is a silver salt of an aliphatic carboxylic acid with greater than 12 carbon atoms.

11. A fourth aqueous dispersion comprising a second in-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid obtained by a preparation process according to claim 8.

12. Fourth aqueous dispersion according to claim 11, wherein said fourth aqueous dispersion further contains a reducing agent for said substantially light-insensitive silver salt of an organic carboxylic acid.

13. A process for preparing a layer of a photo-addressable thermally developable element of a photothermographic recording material, said photo-addressable thermally developable element comprising photosensitive silver halide, said substantially light-insensitive silver salt of an organic carboxylic acid, a reducing agent therefor in thermal working relationship therewith and a binder, comprising the steps of: (i) preparing a fourth aqueous dispersion according to claim 11; and (ii) coating said fourth aqueous dispersion on a support.

14. A photothermographic recording material comprising a photo-addressable thermally developable element, wherein the photo-addressable thermally developable

element comprises a layer produced with a first dispersion, wherein the first aqueous dispersion comprises an ex-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid, and wherein the first aqueous dispersion is obtained by a preparation process for a first aqueous dispersion comprising the steps of: separately preparing a second aqueous dispersion comprising said ex-situ photosensitive silver halide and a third aqueous dispersion comprising said substantially light-insensitive silver salt of an organic carboxylic acid; and mixing said second aqueous dispersion with said third aqueous dispersion to produce a mixture thereof, wherein said first aqueous dispersion thereby produced is substantially free of a water-soluble metal or ammonium salt of an aliphatic carboxylic acid with greater than 12 carbon atoms and said process further comprises a step selected from the group consisting of: increasing the pH of said second aqueous dispersion to a value of at least 8.0 prior to mixing with said third aqueous dispersion; increasing the pH of said third aqueous dispersion to a value of at least 8.0 prior to mixing with said second aqueous dispersion; and increasing the pH of said mixture to a value of at least 8.0.

15. A photothermographic recording material comprising a photo-addressable thermally developable element, wherein the photo-addressable thermally developable element comprises a layer produced with a fourth aqueous dispersion, wherein said fourth aqueous dispersion comprises a second in-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid and wherein the fourth aqueous dispersion is obtained by a preparation process comprising the steps of: (i) providing said third aqueous dispersion of claim 1 and (ii) partially converting said substantially light-insensitive silver salt of an organic carboxylic acid in said third aqueous dispersion with a non-fluoro halide ion source into said second in-situ photosensitive silver halide thereby producing said fourth aqueous dispersion; wherein said fourth aqueous dispersion thereby produced is substantially free of a water-soluble metal or ammonium salt of an aliphatic carboxylic acid with greater than 12 carbon atoms and said process further comprises a step selected from the group consisting of: increasing the pH of said third aqueous dispersion to a value of at least 8.0 prior to step (ii); increasing the pH of the third aqueous dispersion to a value of at least 8.0 during step (ii); and increasing the pH of said aqueous dispersion

resulting from step (ii) to a value of at least 8.0, wherein said process further includes a step of adding a water-soluble silver salt having a solubility in water at 20°C of greater than 0.1 g/L at any stage in said preparation process.

16. A photothermographic recording material comprising a photo-addressable thermally developable element, wherein the photo-addressable thermally developable element comprises a layer produced with a first aqueous dispersion, wherein the first aqueous dispersion comprises an ex-situ photosensitive silver halide and a substantially light-insensitive silver salt of an organic carboxylic acid, and wherein the first aqueous dispersion is obtained by a preparation process for a first aqueous dispersion comprising the steps of: separately preparing a second aqueous dispersion comprising said ex-situ photosensitive silver halide and a third aqueous dispersion comprising said substantially light-insensitive silver salt of an organic carboxylic acid; and mixing said second aqueous dispersion with said third aqueous dispersion to produce a mixture thereof, wherein said first aqueous dispersion thereby produced is substantially free of a water-soluble metal or ammonium salt of an aliphatic carboxylic acid with greater than 12 carbon atoms and said process further comprises a step selected from the group consisting of: increasing the pH of said second aqueous dispersion to a value of at least 8.0 prior to mixing with said third aqueous dispersion; increasing the pH of said third aqueous dispersion to a value of at least 8.0 prior to mixing with said second aqueous dispersion; and increasing the pH of said mixture to a value of at least 8.0, wherein said process further includes a step of adding a water-soluble silver salt having a solubility in water at 20°C of greater than 0.1 g/L at any stage in said preparation process.

17. Preparation process according to claim 1, wherein said process further includes a step of adding a water-soluble silver salt having a solubility in water at 20°C of greater than 0.1 g/L at any stage in said preparation process.

18. Preparation process according to claim 8, wherein said process further includes a step of adding a water-soluble silver salt having a solubility in water at 20°C of greater than 0.1 g/L at any stage in said preparation process.